

(PCT Article 36 and Rule 70)

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/DE2004/002470

Box No. I

Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1, 3, 5-12 as originally filed/furnished
- pages* 2, 2a, 4 received by this Authority on 29.11.2005 with letter of 25.11.2005
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. _____ as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* 1-23 received by this Authority on 10.02.2006 by fax
- nos.* _____ received by this Authority on _____
- ☒ the drawings:
- sheets 1/2, 2/2 as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/DE2004/002470

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1.	Statement		
	Novelty (N)	Claims <u>1-23</u>	YES
		Claims _____	NO
	Inventive step (IS)	Claims <u>1-23</u>	YES
		Claims _____	NO
	Industrial applicability (IA)	Claims <u>1-23</u>	YES
		Claims _____	NO
2.	Citations and explanations (Rule 70.7)		
1.	The following documents are cited in the search report:		
	<p>D1: EP-A-0 386 324</p> <p>D2: FR-A-2 774 715</p> <p>D3: DE 88 14 650 U1</p> <p>D4: DE 100 60 751 C1</p> <p>D5: WO 99/54571 A</p>		
	<p><u>NOVELTY (PCT ARTICLE 33(2))</u></p> <p><u>AND INVENTIVE STEP (PCT ARTICLE 33(3))</u></p>		
2.	The subject matter of claims 1 to 23 is novel (PCT Article 33(2)) and involves an inventive step (PCT Article 33(3)).		
2.1	<p>Document D2, which is considered to be the closest prior art relating to these claims, discloses a multilayered decoupling and sealing system,</p> <p>(a) suitable for laying ceramic coverings using the thin-bed method,</p> <p>(b) having a liquid-impermeable sealing layer 6 (see page 2, line 18),</p> <p>(c) wherein on top of the sealing layer there is an</p>		

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
	<p>anchoring layer 2 formed by a mesh-like structural element for accommodating a filler material which is applied to the upper surface of the decoupling and sealing system, and which is malleable while it is being worked and subsequently hardens within the anchoring layer (see page 3, lines 4 to 5).</p> <p>D2 explicitly states that the system allows decoupling between the tiles and the substrate (see claim 1 and page 1, lines 2, 4 and 28, in particular the words "<i>désolidarisation</i>" and "<i>désolidariser</i>" ["separation" and "separate"]). Also, layer 6 is liquid-impermeable (see page 2, line 18, and claim 3), which means it undoubtedly performs a sealing function. Layer 6 is preferably made of a polyethylene sheet.</p> <p>2.2 Thus the subject matter of claim 1 differs from the known system in that:</p> <ul style="list-style-type: none">(d) the liquid-impermeable sealing layer is a nonwoven anchoring mat or a polymer sealing layer with a nonwoven anchoring mat on each side;(e) at least some parts of a reinforcement layer (5) are fixed to the anchoring layer (2, 3). <p>The subject matter of claim 1 is therefore novel (PCT Article 33(2)).</p> <p>2.3 The problem addressed by the present invention is that of how to modify the multilayered decoupling and sealing system of D2 so as to improve the mechanical load-bearing capacity and the anchoring of the tile layer.</p>

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
2.4	<p>This problem is solved by the system defined in claim 1.</p> <p>Because of the nonwoven anchoring mat in the sealing layer (feature (d)), the anchoring layer above it (feature (c)) and the reinforcement layer laid on top and fixed in place (feature (d)), the joint mortar applied to the upper surface bonds fully with the system and thus ensures the required load-bearing capacity.</p> <p>The reinforcement layer embedded in the hardened filler material performs a stiffening and reinforcing function to bear mechanical loads applied from above. Thus the load is borne by layer thicknesses that are significantly greater than those in known decoupling and sealing systems, because the full thickness of the anchoring layer helps to carry mechanical loads and also the reinforcement layer is strengthened.</p> <p>2.5 The subject matter of claim 1 involves an inventive step because the claimed solution is not obvious from the prior art.</p> <p>Document D1 describes a bonding means, not a decoupling and sealing system. The bonding means is in the form of a sheet consisting of a cold-setting bituminous layer 1, a removable film 2 on its lower surface, and a two-ply layer 3a/3b on its upper surface. The first ply 3a is a nonwoven mat. The second ply 3b is a scrim in the form of a grid or mesh. The two-ply layer has a relief structure which provides a good base for normal thin-bed mortars and</p>

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
	<p>thin-bed tile adhesives. The open layer 3b evidently serves as anchoring for the tile adhesive, which envelops the open layer 3b and clings to the mesh. The two plies 3a and 3b thus correspond approximately to the nonwoven anchoring mat in the sealing layer (feature (d)) and the upper anchoring layer (feature (c)) in the system according to the present invention. However, D1 does not describe a reinforcement layer corresponding to feature (e). Hence a combination of the teachings of D1 and D2 does not lead to the claimed solution.</p> <p>Document D3 describes a prefabricated polymer sealing sheet laminated on both sides with a nonwoven material with protruding individual fibres. The fibres are applied to the sealing sheet during the manufacturing process and are designed to improve the bond between the sealing sheet and the cement mortar that is applied when the tiles are laid. Thus the sealing layer of D3 has feature (d); however, there is no anchoring layer (feature (c)) and no reinforcement layer (feature (e)). Hence a combination of the teachings of D2 and D3 does not lead to the claimed solution.</p> <p>2.6 Claims 2 to 23 are dependent on claim 1, and therefore their subject matter is also novel and inventive.</p> <p><u>INDUSTRIAL APPLICABILITY (PCT ARTICLE 33(4))</u></p> <p>3. The subject matter of claims 1 to 23 is industrially applicable.</p>

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/DE2004/002470

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

4. **Claim 1** is drafted in the two-part form, but the
aforementioned feature (c) should not have been placed
in the characterising part of the claim because it is
disclosed in document **D2** together with the features set
out in the preamble (PCT Rule 6.3(b)).
5. The description is not consistent with the claims
(PCT Rule 5.1(a)(iii)).

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

6. The exemplary embodiments of the invention shown in the drawings do not show a sealing layer "made of a nonwoven anchoring mat or a polymer sealing layer with a nonwoven anchoring mat on each side", and therefore they are not covered by the claims.

This inconsistency between the claims and the description creates doubt regarding the subject matter for which protection is sought, and as a result the claims are not clear.

Consequently the requirements of PCT Article 6 are not met.